

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOSHINOBU BANJYO,
MASATAKA TAKEHARA, SHINICHI HASEGAWA
and
HARUO YOSHIDA

Appeal No. 1997-4387
Application 08/308,963

ON BRIEF

Before FRANKFORT, PATE and STAAB, Administrative Patent Judges.

PATE,, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the examiner's refusal to allow claims 1 through 10, 15, and 16, as amended after final

Appeal No. 1997-4387
Application 08/308,963

rejection. Claims 11 through 14, the other remaining claims in the application, have been allowed.

The claimed invention is directed to a mold clamping device for sealing a semiconductor element in a resin. The mold clamping device is characterized by a quadrilateral pantograph- like mechanism for moving the movable platen of the mold against the stationary platen. Claim 1, appended to appellants' brief, is further illustrative of the claimed subject matter.

The references of record relied upon by the examiner as evidence of obviousness are:

Loscei	4,685,876	Aug. 11, 1987
Goto	5,164,209	Nov. 17, 1992

THE REJECTIONS

Claims 1 through 10, 15, and 16, stand rejected under 35 U.S.C. § 112, first paragraph, as directed to subject matter which was not described in the specification in such a way as to convey that the inventors had possession thereof at the time the application was filed.

Appeal No. 1997-4387
Application 08/308,963

Claims 1, 2, 7 through 10, 15, and 16, stand rejected under 35 U.S.C. § 103 as unpatentable over Goto.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103 as unpatentable over Goto in view of Loscei.

For details of these rejections and the arguments of the appellants with respect thereto, reference is made to the Examiner's Answer and supplemental Examiner's Answer and the appellants' Brief and Reply Brief.

OPINION

We have carefully reviewed the rejections on appeal in light of the arguments of the appellants and the examiner. As a result of this review, we have determined that the examiner has sustained his burden of showing that claims 1 through 10, 15, and 16, are directed to subject matter which does not find descriptive support in appellants' specification. We have further determined that the applied prior art does not establish a prima facie case of obviousness with respect to claims 1 through 4, 7 through 10, 15, and 16.

Appeal No. 1997-4387
Application 08/308,963

Therefore, the obviousness rejections of these claims are not sustained. Our reasons follow.

According to the examiner, appellants' specification lacks descriptive support for the following limitation in appellants' claim 1:

a convex member fixedly secured to a lower surface of said movable platen, having a lower and an upper surface, wherein one of said lower and upper surfaces of said convex member is curved;

an upper metallic mold fixedly secured upon said lower surface of said convex member to oppose said lower metallic mold, said lower metallic mold and said upper metallic mold defining a cavity for accommodating a semiconductor element during a resin molding and sealing process.

As originally filed, appellants' specification includes no information about any connection between upper mold 7 and movable platen 4. Appellants' drawings in Figure 1 and Figure 2 merely show some polygonal figure between movable platen 4 and mold 7. Appellants have amended the drawings to insert reference numeral 7a which points to this polygonal figure.

Appeal No. 1997-4387
Application 08/308,963

Appellants have amended the specification to state the following:

In a variation of the preferred embodiment, as shown in Figs. 1 and 2, member 7a is fixedly secured between the upper mold 7 and the movable platen 4, so that gaps remain between two of the secured surfaces at the outer edges (Amendment submitted July 16, 1996).

We are in agreement with the examiner that the specification as originally filed does not reasonably convey to one of ordinary skill that appellants were in possession of the subject matter now claimed in claim 1. In our view, appellants have not provided descriptive support for the convex limitation in at least two respects. First of all, the drawings as originally filed certainly do not convey possession of the subject matter of a convex member. The word "convex" is generally taken to mean curved outwardly, and indeed claim 1 does use the word "curved." We are in agreement with the examiner

that the drawings as filed do not establish possession of a curved member to affix the mold to the movable platen. Appellants argue that the somewhat jagged diagonal line depicts a curve to the resolution of the CAD drawing program used to generate the drawings. It is our view that if the CAD program cannot show a curve due to its limited resolution, then either the specification must make it expressly clear that the surfaces are curved, or the drawing must be exaggerated on the CAD program so the curve is readily visible to one of ordinary skill. In this case, as noted above, the specification as originally filed is completely silent with respect to there being any curve or convexity to the member now denoted as member 7a.

We have closely inspected the drawing and are unable to ascertain exactly the shape of the member now denoted as member 7a. The member may be a member with a slight convexity as appellants argue. On the other hand, our view is the member is more readily interpreted as a six-sided truncated inverted pyramid, as the diagonal lines appear to be straight, within the

Appeal No. 1997-4387
Application 08/308,963

limited resolution of the CAD drawing program. Therefore, it is clear to us that appellants have not conveyed possession of the subject matter of member 7a, as it is now denoted, that connects platen 4 to mold 7.

Furthermore, it is our view that appellants do not convey possession of a member 7a that "fixedly secures" the upper mold to the movable platen as appellants have now inserted in the specification. Certainly, the drawings do not convey to one of ordinary skill the manner in which the mold is connected to the platen. We are also puzzled as to how, if the mold 7 is fixedly secured to the movable platen, the convex member allows the upper portion of the metallic mold to tilt during the clamping operation (Brief, page 6). A fixed securement appears to be antithetical to tilting. Furthermore, with respect to claim 15, even if appellants had provided support within the scope of the jagged diagonal lines for convexity, it is not clear how appellants have provided any support for the upper surface of the convex member to be curved. For these reasons, appellants have not provided descriptive support for the claim language of claim 1

Appeal No. 1997-4387
Application 08/308,963

questioned by the examiner. Therefore, we will affirm the rejection of claims 1 through 10, 15, and 16.

Turning now to the obviousness rejection of claims 1, 2, 7 through 10, 15, and 16 as rejected under § 103 over Goto, and claims 3 and 4 as rejected over Goto in view of Loscei, we will not sustain these rejections. As noted by both the appellants and the examiner, the primary reference to Goto does

not have a structure that corresponds to or renders obvious appellants' claimed convex member. Furthermore, with respect to the examiner's argument that the convex member to attach the upper mold to the movable platen would have been within the purview of the prior art, we find no factual basis for this argument. There is certainly no basis in the Goto or Loscei references for a convex member as appellants claim. Accordingly, the obviousness rejections on appeal are reversed.

Finally, we note another issue that should be clarified in any other prosecution before the examiner.

Appeal No. 1997-4387
Application 08/308,963

Appellants' independent claim on appeal calls for a quadrilateral linkage defining a pantograph having the form of a collapsible rhombus wherein said rhombus exhibits two first vertices lying on a vertical line and two second vertices lying on a horizontal line. We view this recitation as misdescriptive of appellants' claimed linkage. Appellants' specification at page 7 clearly admits that the rhombus link members are not directly pinned with each other. Although the appellants state that their pantograph structure is "essentially" a rhombus, appellants fail to establish the metes and bounds of the claim when they argue that the pantograph structure in Figure 5 of Goto is not substantially similar to

their structure because of separation of the top vertices of arms 101 in Goto.

SUMMARY

Appeal No. 1997-4387
Application 08/308,963

The rejection of claims 1 through 10, 15, and 16 under 35 U.S.C. § 112, first paragraph, has been affirmed. The rejections of claims 1 through 4, 7 through 10, 15, and 16 under 35 U.S.C. § 103 have been reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

	CHARLES E. FRANKFORT)	
	Administrative Patent Judge)	
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)	BOARD OF
PATENT)	
	WILLIAM F. PATE, III)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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	LAWRENCE J. STAAB)	
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Appeal No. 1997-4387
Application 08/308,963

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